

IMPERX

TIGER

INTELLIGENT CAMERA SERIES

T8040 CCD 43 MP Camera Link®



Imperx: T8040

The Tiger T8040 CCD camera is an advanced, compact, and durable interline CCD camera providing 8040 x 5360 resolution and frame rates up to 2.7 fps. This 43MP camera uses the ON Semiconductor KAI-43140 image sensor with 4.5-micron pixels in a 36mm x 24mm image area for use with Standard 35mm optics. It includes programmable image resolution, frame rates, gain, offset, external triggering, strobe output, temperature monitoring, and user programmable and loadable LUT. The camera's low-noise, excellent uniformity, and low dark current produce image quality prized in Flat Panel inspection, metrology, and surveillance applications. Optional active forced air cooling is available.

Specifications

Feature	Description	Feature	Description
Interfaces available	Camera Link Medium, CoaXPress	Data Corrections	Bad pixel correction, four 12-bit LUTs, 2 FFC, black level, vertical smear
Resolution	8040 x 5360, 8064 x 5384 max	Minimum Illuminations	1 Lux, F/ 1.4
Sensor	ON Semiconductor KAI-43140	Lens Mount	F-Mount (Default), M42, EOS Canon
Sensor Format	CCD, 43.3 mm	Supply Input Range	12VDC (6V - 30V), 1.5 A inrush
Pixel Size	4.5 µm	Power Consumption (Ruggedized)	12V, 0.7A - 0.75A
Frame Rate	2.7 fps	Power Consumption (Industrial)	12V, 0.62A - 0.67A
Dynamic Range	> 60 dB	Size - Width/Height/Length	69.5mm x 69.5mm x 51.5mm
Bit Depth	8, 10, 12 bit	Weight	TBD
Noise	Read Noise: > 13 electrons rms	Vibration, Shock (Ruggedized)	100G (20-200Hz) XYZ/ 1000G
Analog Gain Control	Manual, Auto: 0-30dB	Vibration, Shock (Industrial)	20G (20-200Hz) XYZ / 200G
Black Level Control	Manual, 1024 steps, Auto	Environmental (Ruggedized)	-40°C to +85°C Operating, -50°C to +90°C Storage
Digital Gain	1x -4x, .001 steps	Environmental (Industrial)	-10°C to +60°C Operating, -50°C to +90°C Storage
Digital Offset	-511 to +512	Humidity	10% to 90% non-condensing
White Balance	Manual, auto, off	MTBF	TBD
Shutter Speed	1 µs step, 1/100,000 to 1/5 sec (nom)	Regulatory	FCC Part 15 Class A, CE, RoHS
Exposure Control	Manual, Auto, External		
Long Integration	Up to 16 seconds		
Regions of Interest (ROI)	2 ROIs, any line to any line, any pixel to any pixel		
Binning H/V	1x, 2x, 4x (Independent for H & V)		
Trigger Inputs	External (TTL/Opto via IN1/IN2), pulse generator, software, computer		
Trigger Options	Edge, pulse width, internal exposure, up to 16 seconds trigger delay, debounce		
Trigger Modes	Standard, double, fast		
External Inputs/Outputs	2 IN (OPTO, LVTTTL) / 2 OUT (OPTO, TTL)		
Strobe Output	2 strobes, programmable position and duration		
Pulse Generator	Yes, programmable		

Imperx: T8040 Applications

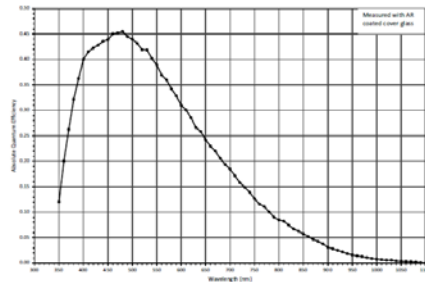
The T8040 incorporates a number of unique features tailored to reduce system complexity, maximize interface bandwidth, and expand the usable operational range.

Aerospace • Satellites • Surveillance • Military and Non-Military Ground Vehicles • Ball Grid Array • Printed Circuit Board Inspection
 • Telepresence • Machine Vision • Reconnaissance • Intelligent Traffic Systems • Aerial Imaging • Open Road Tolling Systems
 • Situational Awareness • Scientific • Particle Velocimetry

Absolute Quantum Efficiency

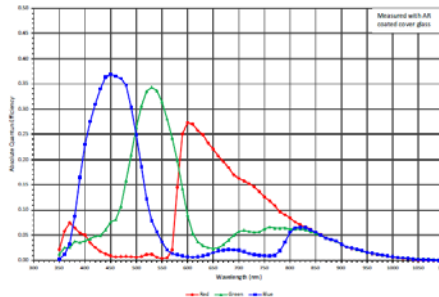
Monochrome with Microlens

KAI-43140

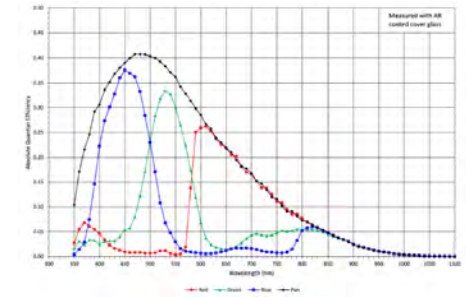


Color (Bayer RGB) with Microlens

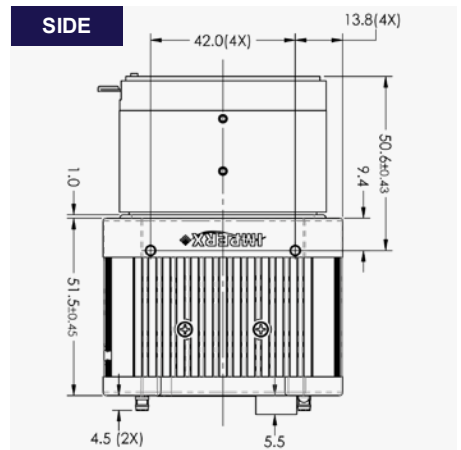
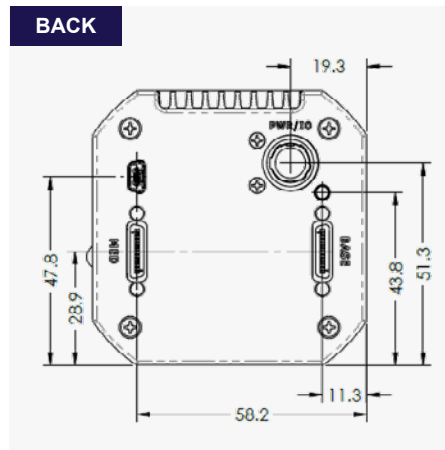
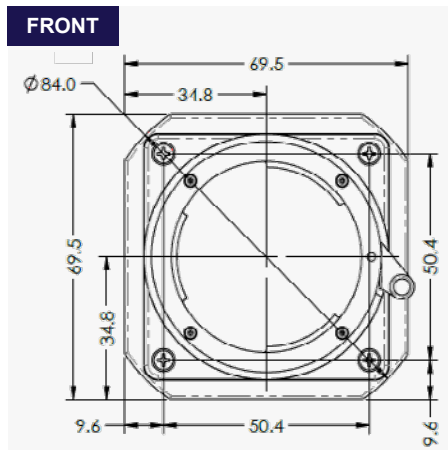
KAI-43140



Color (TRUESENSE Sparse CFA) with Microlens KAI-43140



Dimensions

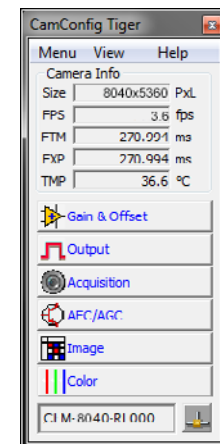


Ordering Information

Interface Available
Camera Link® Medium (CLM) CoaXPress® (CXP)
Sensor Types available
Monochrome Bayer Color Sparse CFA

Lens Mounts
F-Mount (default) EF Canon M42
Ordering
Ruggedized Industrial
Accessories (Sold separately)
PS12v04A-Power Supply w/ 1 input and 1 output

Camera Link GUI



Hirose Connectors

Power and I/O Interface												
<table border="0"> <tr> <td>1. 12V DC Return</td> <td>7. OUT1 TTL Signal</td> </tr> <tr> <td>2. +12V DC</td> <td>8. IN1 OPTO +</td> </tr> <tr> <td>3. Reserved</td> <td>9. IN2 TTL Signal</td> </tr> <tr> <td>4. Reserved</td> <td>10. IN1 OPTO -</td> </tr> <tr> <td>5. OUT2 OPTO -</td> <td>11. IN2 TTL Gnd</td> </tr> <tr> <td>6. OUT1 TTL Gnd</td> <td>12. OUT2 OPTO +</td> </tr> </table>	1. 12V DC Return	7. OUT1 TTL Signal	2. +12V DC	8. IN1 OPTO +	3. Reserved	9. IN2 TTL Signal	4. Reserved	10. IN1 OPTO -	5. OUT2 OPTO -	11. IN2 TTL Gnd	6. OUT1 TTL Gnd	12. OUT2 OPTO +
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6. OUT1 TTL Gnd	12. OUT2 OPTO +											

Connector: Hirose HR 10A-10R-12PB(71)
 * Not Connected for CXP

Quality Management System ISO 9001:2015 Registered
 Environmental Management System ISO 14001:2015 Registered
 DDTC Registered (Directorate of Defense Trade Controls, US Department of State)



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